

DESCRIPTION OF A NEW GENUS AND SPECIES OF BLIND
TAILED BATRACHIANS FROM THE SUBTERRANEAN
WATERS OF TEXAS.

By LEONHARD STEJNEGER,

Curator of the Department of Reptiles and Batrachians.

FOUR YEARS AGO it was my good fortune to announce the discovery of a blind cave salamander (*Typhlotriton spelaeus*) on our continent, which I then characterized as "one of the most important and interesting herpetological events of recent years."¹ The animal to be described now is also a blind salamander-like batrachian, and its discovery is even more important and interesting than the former.

From an artesian well, 188² feet deep, recently bored at San Marcos, Texas, by the United States Fish Commission, more than a dozen specimens of a most remarkable tailed batrachian have been expelled, together with numerous crustaceans, no less remarkable, which will be described by Mr. Benedict in these "Proceedings."

These animals, by their want of external eyes and their white color, at once proclaimed themselves as cave-dwellers, but their extraordinary proportions, absolutely unique in the order to which they belong, suggest unusual conditions of life, which alone can have produced such profound differences. The most startling external feature is the length and slenderness of the legs, like which there is nothing among the tailed batrachians thus far known. While the normal number of fingers and toes is present (4 and 5), it is worthy of note that not only is there a great variation in the relative length of these members, but even the length of the legs in the same animal may differ as much as two millimeters. Viewed in connection with the well-developed, finned swimming-tail, it can be safely assumed that these extraordinarily slender and elongated legs are not used for locomotion, and the conviction is irresistible that in the inky darkness of the subterranean waters they serve the animal as feelers, their development being thus parallel to

¹Preliminary Description of a New Genus and Species of Blind Cave Salamander from North America, Proc. U. S. Nat. Mus., XV, pp. 115-117, pl. ix.

²The depth of this well in the Advance Sheet, April 15, 1896, was given as 181 feet, which has since been found to be incorrect.

the excessive elongation of the antennæ of the crustaceans, of which I have been informed by Mr. Benedict.

The external gills at once suggested that these animals might be only larvæ. The fact that one of them contained large eggs, and that another expelled three eggs after being caught, was no positive proof to the contrary, but in conjunction with the affinity of the species to other forms known to have persistent gills throughout life, it makes it absolutely certain that we have to do with an adult and final animal.

A rough skeleton has been made, and studied as well as the short time since its preparation would allow. It is the intention of the writer later to present, in conjunction with Mr. F. A. Lucas, a detailed description of the anatomy, and an elaborate comparison with allied forms. So far as our studies have proceeded, they indicate that the animal belongs to the superfamily Proteoidea, which embraces the *Proteus*, the elongated, eel-shaped, but likewise blind, cave species, from the subterranean waters of the region at the head of the Adriatic Sea, and the water-dog or mud-puppy (*Necturus*), with functional eyes and less elongate body, of our own continent. Suffice it to say at the present time, that Mr. Lucas and I have made out the presence of what appears to be the *intercalary* bone: maxillaries are apparently wanting; intermaxillaries and mandible are toothed. In addition, it may be asserted that the new genus here introduced is more nearly allied to *Necturus* than to *Proteus*, though between it and the former there is a vast gap.

TYPHLOMOLGE,¹ new genus.

Tongue moderate, anterior border free; vomero-palatine teeth in a strong series: limbs excessively elongated: fingers four, toes five; eyes entirely concealed under the skin: gill rami long, simple, fimbriæ long and slender.

Type.—*Typhlomolge rathbuni*, Stejneger.

TYPHLOMOLGE RATHBUNI, new species.

Diagnosis.—Head large, nearly as long as distance between axilla and groin; snout greatly depressed, nearly square anteriorly; limbs excessively slender and elongated, hand overlapping knee and foot overlapping elbow when adpressed to the side of the body; tail compressed, finned, pointed; color nearly white.

Habitat.—Subterranean waters near San Marcos, Texas.

Type.—No. 22686, U.S.N.M.; San Marcos, Texas; end of February, 1896.

Description of type specimen.—Head excessively large and broad, the distance from tip of snout to base of upper gill branch but slightly less than distance between axilla and groin, its width equal to one-half the latter distance; snout very much depressed, broad, truncated, nearly

¹ *Typhlos*, blind, and *molge*, the name of a salamandroid genus.

square anteriorly; nostrils widely separated at the corners of the truncated snout, their distance greater than that between the eyes, which are deeply hidden under the skin and only visible as two small dark spots; mouth comparatively small, with strongly developed labial lobes; body short and slender, the distance between axilla and groin being but slightly greater than length of head and only one-half the length of the tail, its width being much less than that of the head and even less than that of the snout; limbs excessively slender and long, of nearly even length, about one-fifth of the total length; fingers overlapping knee and toes overlapping elbow when adpressed to the sides of the body; fingers four, toes five; short, slender, free, with rounded tips, their relative length variable; tail comparatively long, nearly one-half the total length, much compressed, finned below and particularly strongly above, the end pointed.

Skin smooth; a very strongly marked gular fold; a well marked vertebral groove; eleven costal grooves. Teeth on intermaxillaries and mandible small; the vomero-palatine teeth large, decreasing in size at both ends. Gill branches long and slender, the middle one longer; fimbriae long and slender, not bushy.

Color nearly white, semitransparent, the upper surfaces densely sprinkled with minute pale gray dots.

Dimensions.—Total length, 102 mm.; from snout to anus, 53; from snout to gular fold, 16; from snout to beginning of upper gill branch, 22; width of head, 13; width of snout, 9; distance between nostrils, 7; distance between eyes, 6; distance between axilla and groin, 25; fore limb, 20; hind limb, 20; longest finger, 2.3; longest toe, 2.5; width of limbs, 1.7; tail, 11.

I take great pleasure in dedicating this most interesting novelty to Mr. Richard Rathbun, in recognition of his eminent services to science, both as a naturalist and as the head of the scientific staff of the United States Commission of Fish and Fisheries.